CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Original) A method of predicting the performance of a drilling system, comprising:

generating a geology model of a given formation, the geology model including a geology characteristic of the given formation per unit depth; and

determining a predicted drilling performance for a proposed drilling equipment based on the geology model and specification data of the proposed drilling equipment, wherein the specification data of the proposed drilling equipment is a function of the geology characteristic.

2. (Original) The method of Claim 1, further comprising:

determining a predicted drilling performance for a second proposed drilling equipment based on the geology model and specification data of the second proposed drilling equipment, wherein the specification data of the second proposed drilling equipment is a function of the geology characteristic;

comparing the predicted drilling performance for the proposed drilling equipment to the predicted drilling performance for the second proposed drilling equipment; and

based on the comparison, automatically selecting a recommended drilling equipment for use in the drilling system.

3. (Original) The method of Claim 2, further comprising limiting the predicted drilling performance for the proposed drilling equipment and for the second proposed drilling equipment to a certain depth in the given formation.

4. (Original) The method of Claim 3, further comprising optimizing the drilling system such that the recommended drilling equipment is matched for use with the drilling system at the certain depth in the given formation.

5. (Previously Presented) The method of Claim 2, further comprising displaying the recommended drilling equipment for the drilling system in the given formation at a certain depth.

6. (Original) The method of Claim 5, wherein displaying further comprises outputting the recommended drilling equipment in a preference order based on the comparison.

7. (Original) The method of Claim 1, wherein the geology characteristic is selected from a group consisting of log data, lithology, porosity, confined rock strength, unconfined rock strength, and shale plasticity.

8. (Original) The method of Claim 1, wherein the specification data includes at least one predicted drilling mechanics data selected from a group consisting of bit wear, mechanical efficiency, power and operating parameters.

9. (Original) The method of Claim 1, wherein the specification data includes a 3-D bit model.

10. (Original) A program product for predicting the performance of drilling system, the program product comprising:

a computer-usable medium; and

computer instructions encoded in the computer-usable medium, wherein the computer instructions, when executed, cause a computer to perform operations comprising:

generating a geology model of a given formation, the geology model including a geology characteristic of the given formation per unit depth; and

determining a predicted drilling performance for a proposed drilling equipment based on the geology model and specification data of the proposed drilling equipment, wherein the specification data of the proposed drilling equipment is a function of the geology characteristic.

11. (Original) The program product of Claim 10, wherein the computer instructions further comprising:

determining a predicted drilling performance for a second proposed drilling equipment based on the geology model and specification data of the second proposed drilling equipment, wherein the specification data of the second proposed drilling equipment is a function of the geology characteristic;

comparing the predicted drilling performance for the proposed drilling equipment to the predicted drilling performance for the second proposed drilling equipment; and

based on the comparison, automatically selecting a recommended drilling equipment for use in the drilling system.

12. (Original) The program product of Claim 11, wherein the computer instructions further comprising limiting the predicted drilling performance for the proposed drilling equipment and for the second proposed drilling equipment to a certain depth in the given formation.

13. (Original) The program product of Claim 12, wherein the computer instructions further comprising optimizing the drilling system such that the recommended drilling equipment is matched for use with the drilling system at the certain depth in the given formation.

14. (Original) The program product of Claim 11, wherein the computer instructions further comprising displaying the recommended drilling equipment for the drilling system in the given formation at the certain depth.

15. **(Currently Amended)** A method of selecting drilling equipment for use in a drilling system comprising:

modeling a potential well bore based **on** at least one geological characteristic; and

predicting a performance of a first drilling equipment of the drilling system to be used in drilling the potential well bore based on a predicted drilling mechanics data of the first drilling equipment, wherein the predicted drilling mechanics data is a function of the at least one geological characteristic used in modeling the potential well bore.

16. (Original) The method of Claim 15, further comprising:

predicting a performance of a second drilling equipment of the drilling system based on a predicted drilling mechanics data of the second drilling equipment;

comparing the performance of the first drilling equipment to the performance of the second drilling equipment; and

based on the comparison, selecting a preferred drilling equipment for use with the drilling system.

17. (Original) The method of Claim 16, further comprising:

comparing real time data obtained during the drilling of the potential well bore to the predicted drilling mechanics data; and

modifying the predicted drilling mechanics data based on the real time data.

18. (Original) The method of Claim 16, further comprising displaying the preferred drilling equipment for the drilling system.

19. (Original) The method of Claim 15, wherein modeling further comprises creating a geological model of a potential well bore at a given depth.

20. (Original) The method of Claim 19, further comprising optimizing a drilling system based on the geological model such that the preferred drilling equipment is recommended for use based on the given depth.

21. (Original) The method of Claim 20, further comprising displaying the optimized drilling system such that the preferred drilling equipment is displayed at the given depth.

22. (Original) The method of Claim 15, wherein the geology characteristic is selected from a group consisting of log data, lithology, porosity, confined rock strength, unconfined rock strength, and shale plasticity.

23. (Original) The method of Claim 15, wherein the predicted drilling mechanics data is selected from a group consisting of bit wear, mechanical efficiency power and operating parameters.

24. (Original) The method of Claim 15, wherein the predicted drilling mechanics data comprises a 3-D bit model.

25. (**Currently Amended**) A program product for selecting drilling equipment for use in a drilling system, the program product comprising:

a computer-usable medium; and

computer instructions encoded in the computer-usable medium, wherein the computer instructions, when executed, cause a computer system to perform operations comprising:

modeling a potential well bore based **on** at least one geological characteristic; and

predicting a performance of a first drilling equipment of the drilling system to be used in drilling the potential well bore based on a predicted drilling mechanics data of the first drilling equipment, wherein the predicted drilling mechanics data is a function of the at least one geological characteristic used in modeling the potential well bore.

26. (Original) The program product of Claim 25, wherein the computer instructions perform operations further comprising:

predicting a performance of a second drilling equipment of the drilling system based on a predicted drilling mechanics data of the second drilling equipment;

comparing the performance of the first drilling equipment to the performance of the second drilling equipment; and

based on the comparison, selecting a preferred drilling equipment for use with the drilling system.

27. (Original) The program product of Claim 25, wherein the computer instructions perform operations further comprising:

comparing real time data obtained during the drilling of the potential well bore to the predicted drilling mechanics data; and

modifying the predicted drilling mechanics data based on the real time data.

28. (Original) The program product of Claim 25, wherein the computer instructions perform operations further comprising displaying the preferred drilling equipment for the drilling system.

29. (Original) The program product of Claim 25, wherein the computer instructions perform operations wherein modeling further comprising creating a geological model of a potential well bore at a given depth.

30. (Original) The program product of Claim 29, wherein the computer instructions perform operations further comprising optimizing a drilling system based on the geological model such that the preferred drilling equipment is recommended for use based on the given depth.

31. (Original) The program product of Claim 30, wherein the computer instructions perform operations further comprising displaying the optimized drilling system such that the preferred drilling equipment is displayed at the given depth.

32. (Original) The program product of Claim 25, wherein the computer instructions perform operations wherein the geology characteristic is selected from a group consisting of log data, lithology, porosity, confined rock strength, unconfined rock strength, and shale plasticity.

33. (Original) The program product of Claim 25, wherein the computer instructions perform operations wherein the predicted drilling mechanics data is selected from a group consisting of bit wear, mechanical efficiency power and operating parameters.

34. (Original) A system for selecting drilling equipment for use in a drilling system comprising:

a geological model of a proposed well bore, the geological model representative of the proposed well bore based on at least one geological characteristic;

specification data of a plurality of proposed drilling equipment, the specification data of each proposed drilling equipment including a predicted drilling mechanics data as a function of the at least one geological characteristic used for the geological model; and

means for comparing the predicted drilling mechanics data for the proposed drilling equipment to the geological model such that an optimized drilling system is selected.

35. (Original) The system of Claim 34, further comprising means for displaying the optimized drilling system.

36. (Original) The system of Claim 35, wherein the means for displaying comprises a computer display.

37. (Original) The system of Claim 35, wherein the means for displaying comprises a printed output.

38. (Original) The system of Claim 34, wherein the predicted drilling mechanics data is selected from a group consisting of bit wear, mechanical efficiency power and operating parameters.

39. (Original) The method of Claim 34, wherein the geology characteristic is selected from a group consisting of log data, lithology, porosity, confined rock strength, unconfined rock strength, and shale plasticity.